

40. The 2000 series aluminum alloy of claim 1 where in said ΔK at a fatigue crack growth rate of 10 μ -inch/cycle improves by a minimum 1.00 ksi $\sqrt{\text{in}}$ with R equal to 0.1 and RH greater than 90%.--

Remarks

Applicants have amended the specification by taking text from U.S. Patent 5,213,639 which is incorporated by reference in the as filed application and expressly putting that text into the specification of this application. This addition to the specification is not the addition of new matter as provided by well settled law In re Hawkins, 179 USPQ 163 (CCPA 1973). Specifically, the language was lifted from column 7, line 68, column 8, lines 1 through 14, column 9, lines 17 through 26 and lines 40 through 68, column, 10 lines 1 through 64, column 11, lines 3 through 28 and lines 55 through 68 bridging to column 12, lines 1 through 10, column 12, lines 11 through 27, and lines 38 through 46 and finally column, 13 lines 15 through 24. This text was added to make the invention hereof clearer.

Applicants have also added 20 additional claims to the application. None of the additions hereof include new matter.

Applicants bring to the Examiner's attention U.S. Patent 4,294,625 ("625"). This patent is a plate patent for aerospace aluminum alloys that has been associated with the 2324-T39 plate product. Applicants assert that the invention hereof is patentable over the '625 patent. It is noteworthy that this patent teaches to avoid

recrystallization, see column 2, lines 39 to 44, whereas the present invention is recrystallized.

Claims 1, 3-16 and 18—35 U.S.C. §112

Claims 1, 3-16 and 18 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner asserts that the specification of the invention fails to specify what the average values of the standard 2324-T39 alloy would be for the properties selected; therefore, it cannot be determined whether the invention is an improvement. The Examiner states that the average values of the standard 2324-T39 alloy could be submitted for further review. Applicants have amended claims 1, 11, 12, 13, 14, 15, and 16 by inserting --shown in Fig. 1—after the comparison alloy 2324-T39 so that it is clear that the comparative property values are those values referenced in Figure 1 as 2324-T39 and compared to the invention properties. In view of this amendment, applicants respectfully request reconsideration of the rejection made under 35 USC §112 of claims 1, 3-16 and 18.

Applicants have also corrected a minor cosmetic error in the as-filed claims by putting “Ic” in the lower case for K_{Ic} . Applicants have also deleted reference to “S/N fatigue resistance” in the claims. Applicants have also amended claims 1, and 11 through 16 including --stress intensity factor range, ΔK at a fatigue crack growth rate of $10 \mu\text{-inch/cycle}$ wherein $R=0.1$ and RH is greater than 90%--, deleting “the fatigue crack growth rate” as this makes the claiming of this property clearer. “RH” is the relative

humidity. Support for this amendment is found at page 12 lines 14 and 15 and in Figure 3.

Claims 1-20—35 U.S.C. §102

Claims 1-20 were rejected under 35 U.S.C. §102(b) as being anticipated by Karabin et al. The Examiner asserts that Karabin et al teaches an aluminum alloy product consisting essentially of about 3.6 to 4.0 wt.% copper, about 1.0 to 1.6 wt.% magnesium, about 0.3 to 0.7 wt.% manganese, about 0.05 to 0.25 wt.% zirconium, the balance aluminum and incidental elements and impurities. The Examiner points out that it preferably includes less than 0.05 wt.% of iron and 0.03 wt.% of silicon, and is substantially free of titanium which means it contains 0.03 wt.% or less (col. 4, paragraph 2) and that it is inherent that 0% beryllium is within the instantly disclosed range. The Examiner further states that Karabin et al also teaches that the heat treatment temperature is between 900 and 935°C (col. 6, paragraph 1) and that the copper preferred target is 4.0 to 4.2 wt.% while the preferred target for magnesium is 1.15 to 1.5 (col. 5, paragraph 1). The Examiner further indicates that the aluminum alloy of Karabin et al is used in the structural component of an aerospace product, specifically the wing of a commercial jet aircraft (col. 3, paragraph 1). Finally, the Examiner states that it would appear that the improvements of the Karabin et al invention are also between 5 to 7.5% compared to the average values of standard 2324-T39 alloy disclosed in given prior art, showing that the instantly disclosed invention embraces the teachings of Karabin et al.

Karabin, however is a "substantially unrecrystallized" product. See column 3 at lines 58 through 61. Also Karabin contains zirconium, see column 5 lines 15 through 27, which is well-know for making aluminum alloys remain unrecrystallized. Applicants' alloy product is a recrystallized plate product, unlike the Karabin alloy product.

Accordingly, since applicants product is not unrecrystallized nor does it contain any zirconium, Karabin et al can not anticipate applicants' invention. Additionally, the teaching of Karabin teaches away from making a plate product with better properties in a recrystallized state since Karabin is specifically directed to a substantially unrecrystallized product. Applicants respectfully request that the Examiner reconsider the rejection of claims 1-20 under 35 USC §102(b) and any underlying 35 USC §103 rejection since one of ordinary skill in the art would not learn from Karabin to make a recrystallized product at applicants' selected composition to gain the enhanced properties.

It is respectfully submitted that the present application is in condition for allowance. If the Examiner would like to suggest changes of a formal nature to place this application in better condition for allowance, a telephone call to applicants' undersigned attorney would be appreciated.

Respectfully submitted,



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Charles Q. Buckwalter
Charles Q. Buckwalter
Attorney for Applicants
Reg. No. 32969